

Data Validation Checklist

Semivolatile Organic Analyses

Project: 35TH Avenue Superfund Site
 Laboratory: TestAmerica – Savannah, GA
 Method: SW-846 8270D Low-Level (PAH)
 Matrix: Soil
 Reviewer: Karen M Trujillo, URS Group, Inc.
 Concurrence¹: Jenine Abbassi, URS Group, Inc.

Project No: 60430028; 1
 Job ID.: 680-106200-3
 Associated Samples: Refer to Attachment A (Sample Summary)
 Samples Collected: 10/06/2014 & 10/07/2014
 Date: 08/11/2015
 Date: 08/14/2015

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were sample storage and preservation requirements met? If temperature >6°C, then J/UJ flag results.	✓				
2. Were all COC records signed and integrity seals intact, indicating that COC was maintained for all samples?	✓				
3. Were there any problems noted in laboratory data package concerning condition of samples upon receipt?		✓			
4. Do any soil samples contain more than 50% water? If yes, then results are to be reported on a wet-weight basis.		✓			
5. Were holding times met (≤ 7 and 14 days from collection to extraction for aqueous and solid samples, respectively; ≤ 40 days from extraction to analysis)? If not, then J/UJ flag sample results. If grossly (2x) exceeded, then flag J/R.	✓				
6. Were results for all project-specified target analytes reported?	✓				
7. Were project-specified Reporting Limits achieved for undiluted sample analyses?	✓				
8. Were samples with analyte concentrations exceeding the calibration range of the instrument re-analyzed at a higher dilution? If not, then J flag sample result.	✓				
9. Was a method blank extracted with each batch (i.e., one per 20 samples, per batch, per matrix and per level)?	✓				
10. Were target analytes detected in the method blank?		✓			
11. Are equipment/rinsate blanks associated with every sample? If no, note in DV report.		✓		According to the QAPP, a rinsate blank is to be collected after each decontamination event, which occurs once per week per the client. A rinsate blank is not associated with this sampling event. Blank contamination will be evaluated based on method blank results.	
12. Were target analytes detected in equipment/rinsate blanks?			✓		
13. Were analytes detected in samples below the blank contamination action level? If yes, U flag positive sample results <5x associated blank concentration (10x for common blank contaminants–phthalates)			✓	Blank contamination does not exist.	

¹ Independent technical reviewer

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
14. Is a field duplicate associated with this Job?	✓			<ul style="list-style-type: none"> CV0965D-CSD6 (680-106200-32) is a field duplicate of sample CV0965D-CS6 (680-106200-31). CV0613B-CSD6 (680-106200-45) is a field duplicate of CV0613B-CS6 (680-106200-43) CV0753A-CSD (0-4") (680-106200-50) is a field duplicate of sample CV0753A-CS (0-4") (680-106200-49). 	
15. Was precision deemed acceptable as defined by the project plans?	✓			Refer to Attachment B (Field Duplicate Evaluation)	
16. Were DFTPP ion abundance criteria (i.e., Table 3 of SW-846 8270D) met? If no, professional judgment may be applied to determine to what extent the data may be utilized.	✓			Alternate tuning criteria were used by the laboratory (i.e., EPA Method 525.2). All ion abundance criteria were met per EPA Method 525.2.	
17. Were samples analyzed within 12 hours of the DFTPP tune? If no, professional judgment may be applied to determine to what extent the data may be utilized.	✓				
18. Were initial and continuing calibration standards analyzed at the proper frequency for each instrument? <ul style="list-style-type: none"> Ensure that a minimum of five standards are used for the initial calibration. If no, use professional judgment to determine the effect on the data and note in the reviewer narrative. An initial calibration is to be associated with each sample analysis. A continuing calibration standard is to be analyzed for every 12 hours of sample analysis per instrument. 	✓			<ul style="list-style-type: none"> Instrument ID: CMSK Initial Calibration: 10/07/2014 ICV: 10/07/14 @ 17:50 CCV: 10/17/14 @ 09:49 Instrument ID: CMSY Initial Calibration: 10/07/2014 ICV: 10/07/14 @ 16:25 CCV: 10/16/2014 @ 09:29 & 10/17/2014 @ 09:52 	
19. Were calibration results within laboratory/project specifications? <ul style="list-style-type: none"> ICAL (Criteria: ≤ 20 mean %RSD ($\leq 50\%$ for poor performers), OR $r \geq 0.995$, OR $r^2 \geq 0.99$, and RRF ≥ 0.050 (≥ 0.010 for poor performers)): <ul style="list-style-type: none"> If %RSD > 20 ($> 50\%$ for poor performers), or $r < 0.995$, or $r^2 < 0.995$, then J flag positive results and UJ flag non-detects If mean RRF < 0.050 (< 0.010 for poor performers), then J flag positive results and R flag non-detects (unless the lab analyzed a detectability check standard) ICV and CCV (ICV Criteria: $\leq \pm 30\%$D; CCV Criteria: $\leq \pm 20\%$D ($\leq 50\%$ for poor performers) and RF ≥ 0.050 (≥ 0.010 for poor performers)): <ul style="list-style-type: none"> If %D $>$ Control Limit ($> 50\%$ for poor performers), then J flag positive results and UJ flag non-detects If RF < 0.050 (< 0.010 for poor performers), then UJ flag non-detected semivolatile target compounds 	✓			<ul style="list-style-type: none"> ICV of 10/17/14 @ 09:52 (ICV 680-352395/10), instrument CMSK. Indeno[1,2,3-cd]pyrene @ -20.3%D (Lab: <30, Project: <20). Negative bias. Qualification of data is not required, as there are no associated reportable sample results. CCV of 10/17/14 @ 09:52 (CCVIS 680-354069/2), instrument CMSY. Indeno[1,2,3-cd]pyrene @ -25.8%D (Lab: <20, Project: <20). Negative bias. J and UJ-Flag the following positive and non-detect Indeno[1,2,3-cd]pyrene sample results, that are associated with this CCV: <ul style="list-style-type: none"> 680-106200-31 (CV0965D-CS6) 680-106200-42 (CV0509T-CS18) 680-106200-43 (CV0613B-CS6) 680-106200-44 (CV0509T-CS24) 680-106200-45 (CV0613B-CSD6) 680-106200-46 (CV0613B-CS12) 680-106200-47 (CV0613B-CS18) 680-106200-48 (CV0613B-CS24) 680-106200-49 [CV0753A-CS (0-4")] 680-106200-50 [CV0753A-CSD (0-4")] 	J/UJ
20. Was a LCS prepared for each batch and matrix?	✓				
21. Were LCS recoveries within lab control limits? If no, J flag positive	✓				

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
results when %R >Upper Control Limit (UCL) and J/R flag results when %R <Lower Control Limit (LCL).					
22. Were LCS/LCSD RPD within lab specifications? If no, J flag positive results and UJ flag non-detects	✓				
23. Was a MS/MSD pair extracted at the proper frequency (one per 20 samples per batch)?	✓				
24. Is the MS/MSD parent sample a project-specific sample?	✓			<ul style="list-style-type: none"> • Batch 353671: 680-106200-31 (CV0965D-CS6), MS/MSD • Batch 353477: (Batch Sample), MS/MSD. Lab sample 680-106200-A-18 is a project-specific sample (CV0971WW-CS6) and results were reported under Job ID 680-106200-2. 	
25. For all analytes with native sample concentrations < 4 x spiking level, were MS and MSD recoveries within laboratory/project specifications? <i>Only QC results for project samples that are reported under this Job ID are evaluated.</i> <ul style="list-style-type: none"> • If the native sample concentration > 4x spiking level, then an evaluation of interference is not possible. • If either MS or MSD recovery meets control limits, qualification of data is not warranted. • MS and MSD %R<10: J and R Flag positive and ND results, respectively • MS and MSD %R >10 and <LCL: J Flag positive and UJ flag non-detect results • MS and MSD R% >UCL (or 140): J Flag positive results 		✓		680-106200-31 (CV0965D-CS6): <ul style="list-style-type: none"> • Acenaphthylene MS and MSD @32 and 40 %R (Lab/Project: 37-131) • Indeno[1,2,3-cd]pyrene MS and MSD @28 and 35 %R (Lab/Project: 35-148) <p>Qualification of data is not warranted, as the MSD recovery met control limits.</p>	
26. For all analytes with native sample concentrations < 4 x spiking level, were laboratory criteria met for precision during the MS and MSD analyses? <i>Only QC results for project samples that are reported under this Job ID are evaluated.</i> <ul style="list-style-type: none"> • If the native sample concentration > 4x spiking level, then an evaluation of interference is not possible. • If %RPD > UCL, J flag positive result and UJ flag non-detect result 	✓				
27. Were surrogate recoveries within lab/project specifications? <ul style="list-style-type: none"> • If %R for 1 Acid or BN surrogates <10, then J flag positive and R flag non-detect associated sample results (i.e., acid or BN results) • If 2 or more Acid or BN %R >UCL, then J flag positive associated sample results (i.e., acid or BN results) • If 2 or more Acid or BN %R ≥10%, but <LCL, then J flag positive and UJ flag non-detect associated sample results (i.e., acid or BN results) • If 2 or more Acid or BN , with 1 %R >UCL and 1 %R ≥10%, but <LCL, then J flag positive and UJ flag non-detect associated sample results (i.e., acid or BN results) 		✓		Surrogate o-terphenyl was not recovered (0%) during the diluted analysis of samples 680-108230-31 through -33, -36 through -38, -40 through -43, -45, -46, -49, and -50. Qualification of sample results is not warranted, as the surrogate compound was diluted out of the samples.	

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
28. Were internal standard (IS) results within lab/project specifications? <ul style="list-style-type: none"> • If IS area counts are less than 50% of the midpoint calibration standard, then J flag positive and UJ flag non-detect associated sample results • If IS area counts are greater than 100% of the midpoint calibration standard, then J flag positive results • If extremely low area counts are reported or performance exhibits a major abrupt drop-off, then a severe loss of sensitivity is indicated, J flag positive and R flag non-detect results • If retention time of sample's internal standard is not within 30 seconds of the associated calibration standard, R flag associated data. • The chromatographic profile for that sample must be examined to determine if any false positives or negatives exists. For shifts of large magnitude, the reviewer may consider partial or total rejection of the data for that sample fraction. Positive results need not be qualified as R, if mass spectral criteria are met. 	✓				
29. Were lab comments included in report?	✓			Refer to Attachment C (Case Narrative)	
Comments: The data validation was conducted in accordance with the <i>Non-Industrial Use Property Sampling Event QAPP for the 35th Avenue Removal Site, Birmingham, Alabama, Revision 1</i> (OTIE, October 2012). The data review process was modeled after the USEPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Organic Methods Data Review (EPA, October 1999) and USEPA CLP NFG for Low Concentration Organic Methods Data Review (EPA, June 2001). Sample results have been qualified based on the results of the data review process (Attachment D). Criteria for acceptability of data were based upon available site information, analytical method requirements, guidance documents, and professional judgment.					

DV Flag Definitions:

- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
 R The sample results are unusable. The analyte may or may not be present in the sample.
 U The analyte was analyzed for, but was not detected above the associated level; blank contamination may exist.
 UJ The analyte was not detected above the limit, and the limit is approximate and may be inaccurate or imprecise.

ATTACHMENT A
SAMPLE SUMMARY

SAMPLE SUMMARY

Client: Oneida Total Integrated Enterprises LLC

Job Number: 680-106200-3
Sdg Number: 680-106200-03

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-106200-31	CV0965D-CS6	Solid	10/06/2014 1530	10/11/2014 0933
680-106200-31MS	CV0965D-CS6	Solid	10/06/2014 1530	10/11/2014 0933
680-106200-31MSD	CV0965D-CS6	Solid	10/06/2014 1530	10/11/2014 0933
680-106200-32	CV0965D-CSD6	Solid	10/06/2014 1530	10/11/2014 0933
680-106200-33	CV0965D-CS12	Solid	10/06/2014 1540	10/11/2014 0933
680-106200-34	CV0965D-CS18	Solid	10/06/2014 1555	10/11/2014 0933
680-106200-35	CV0965D-CS24	Solid	10/06/2014 1600	10/11/2014 0933
680-106200-36	CV0739A-CS6	Solid	10/06/2014 1350	10/11/2014 0933
680-106200-37	CV0739A-CS12	Solid	10/06/2014 1400	10/11/2014 0933
680-106200-38	CV0739A-CS18	Solid	10/06/2014 1410	10/11/2014 0933
680-106200-39	CV0739A-CS24	Solid	10/06/2014 1420	10/11/2014 0933
680-106200-40	CV0509T-CS6	Solid	10/07/2014 0920	10/11/2014 0933
680-106200-41	CV0509T-CS12	Solid	10/07/2014 0930	10/11/2014 0933
680-106200-42	CV0509T-CS18	Solid	10/07/2014 0940	10/11/2014 0933
680-106200-43	CV0613B-CS6	Solid	10/07/2014 1450	10/11/2014 0933
680-106200-44	CV0509T-CS24	Solid	10/07/2014 0950	10/11/2014 0933
680-106200-45	CV0613B-CSD6	Solid	10/07/2014 1450	10/11/2014 0933
680-106200-46	CV0613B-CS12	Solid	10/07/2014 1500	10/11/2014 0933
680-106200-47	CV0613B-CS18	Solid	10/07/2014 1510	10/11/2014 0933
680-106200-48	CV0613B-CS24	Solid	10/07/2014 1520	10/11/2014 0933
680-106200-49	CV0753A-CS (0-4")	Solid	10/07/2014 1610	10/11/2014 0933
680-106200-50	CV0753A-CSD (0-4")	Solid	10/07/2014 1610	10/11/2014 0933

ATTACHMENT B

FIELD DUPLICATE EVALUATION

Evaluation of Field Duplicate Results

Attachment B

Analyte	CV0965D-CS6 680-106200-31	RL	CV0965D-CSD6 680-106200-32	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
1-Methylnaphthalene	210	84	240	74	µg/kg	395	NA	30	158	None, absolute difference ≤ 2x Avg RL
2-Methylnaphthalene	170	84	210	74	µg/kg	395	NA	40	158	None, absolute difference ≤ 2x Avg RL
Acenaphthylene	59	J	84	56	µg/kg	395	NA	3	158	None, absolute difference ≤ 2x Avg RL
Anthracene	53	J	84	60	µg/kg	395	NA	7	158	None, absolute difference ≤ 2x Avg RL
Benzo(a)anthracene	250	84	250	74	µg/kg	395	NA	0	158	None, absolute difference ≤ 2x Avg RL
Benzo(a)pyrene	180	84	200	74	µg/kg	395	NA	20	158	None, absolute difference ≤ 2x Avg RL
Benzo(b)fluoranthene	320	84	370	74	µg/kg	395	NA	50	158	None, absolute difference ≤ 2x Avg RL
Benzo(g,h,i)perylene	140	84	160	74	µg/kg	395	NA	20	158	None, absolute difference ≤ 2x Avg RL
Benzo(k)fluoranthene	110	84	100	74	µg/kg	395	NA	10	158	None, absolute difference ≤ 2x Avg RL
Chrysene	330	84	400	74	µg/kg	395	NA	70	158	None, absolute difference ≤ 2x Avg RL
Dibenz(a,h)anthracene	64	J	84	83	µg/kg	395	NA	19	158	None, absolute difference ≤ 2x Avg RL
Fluoranthene	360	84	350	74	µg/kg	395	NA	10	158	None, absolute difference ≤ 2x Avg RL
Fluorene			84	74	J	395	NA	74	158	None, absolute difference ≤ 2x Avg RL
Indeno(1,2,3-cd)pyrene	87	84	100	74	µg/kg	395	NA	13	158	None, absolute difference ≤ 2x Avg RL
Naphthalene	150	84	180	74	µg/kg	395	NA	30	158	None, absolute difference ≤ 2x Avg RL
Phenanthrene	360	84	420	74	µg/kg	395	NA	60	158	None, absolute difference ≤ 2x Avg RL
Pyrene	370	84	400	74	µg/kg	395	NA	30	158	None, absolute difference ≤ 2x Avg RL

Note: If the analyte was not detected, then the cell was left blank.

µg/kg - micrograms per kilogram

J - Estimated value

NA - Not applicable

RL - Reporting limit

RPD - Relative percent difference

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

Evaluation of Field Duplicate Results

Attachment B

Analyte	CV0613B-CS6 680-106200-43	RL	CV0613B-CSD6 680-106200-45	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
1-Methylnaphthalene	76	73	53 J	73	µg/kg	365	NA	23	146	None, absolute difference ≤ 2x Avg RL
2-Methylnaphthalene	91	73	66 J	73	µg/kg	365	NA	25	146	None, absolute difference ≤ 2x Avg RL
Acenaphthene	72	73	65 J	73	µg/kg	365	NA	7	146	None, absolute difference ≤ 2x Avg RL
Anthracene	210	73	180	73	µg/kg	365	NA	30	146	None, absolute difference ≤ 2x Avg RL
Benzo(a)anthracene	900	73	740	73	µg/kg	365	20	NA	NA	None, RPD ≤ 50%
Benzo(a)pyrene	920	73	780	73	µg/kg	365	16	NA	NA	None, RPD ≤ 50%
Benzo(b)fluoranthene	1500	73	1300	73	µg/kg	365	14	NA	NA	None, RPD ≤ 50%
Benzo(g,h,i)perylene	600	73	560	73	µg/kg	365	7	NA	NA	None, RPD ≤ 50%
Benzo(k)fluoranthene	530	73	450	73	µg/kg	365	16	NA	NA	None, RPD ≤ 50%
Chrysene	1100	73	870	73	µg/kg	365	23	NA	NA	None, RPD ≤ 50%
Dibenz(a,h)anthracene	270	73	240	73	µg/kg	365	NA	30	146	None, absolute difference ≤ 2x Avg RL
Fluoranthene	1700	73	1400	73	µg/kg	365	19	NA	NA	None, RPD ≤ 50%
Fluorene	64 J	73	53 J	73	µg/kg	365	NA	11	146	None, absolute difference ≤ 2x Avg RL
Indeno(1,2,3-cd)pyrene	470	73	400	73	µg/kg	365	16	NA	NA	None, RPD ≤ 50%
Naphthalene	81	73	59 J	73	µg/kg	365	NA	22	146	None, absolute difference ≤ 2x Avg RL
Phenanthrene	850	73	720	73	µg/kg	365	17	NA	NA	None, RPD ≤ 50%
Pyrene	1600	73	1200	73	µg/kg	365	29	NA	NA	None, RPD ≤ 50%

Note: If the analyte was not detected, then the cell was left blank.

µg/kg - micrograms per kilogram

J - Estimated value

NA - Not applicable

RL - Reporting limit

RPD - Relative percent difference

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

Evaluation of Field Duplicate Results

Attachment B

Analyte	CV0753A-CS (0-4") 680-106200-49	RL	CV0753A-CDS (0-4") 680-106200-50	RL	Unit	Avg. RLx5	RPD	Absolute difference	2x Avg RL	Action
1-Methylnaphthalene	210	77	140	76	µg/kg	382.5	NA	70	153	None, absolute difference ≤ 2x Avg RL
2-Methylnaphthalene	240	77	160	76	µg/kg	382.5	NA	80	153	None, absolute difference ≤ 2x Avg RL
Anthracene	45	J	77	43	J	76	µg/kg	382.5	NA	2
Benzo(a)anthracene	250	77	280	76	µg/kg	382.5	NA	30	153	None, absolute difference ≤ 2x Avg RL
Benzo(a)pyrene	210	77	260	76	µg/kg	382.5	NA	50	153	None, absolute difference ≤ 2x Avg RL
Benzo(b)fluoranthene	390	77	440	76	µg/kg	382.5	12	NA	NA	None, RPD ≤ 50%
Benzo(g,h,i)perylene	180	77	180	76	µg/kg	382.5	NA	0	153	None, absolute difference ≤ 2x Avg RL
Benzo(k)fluoranthene	120	77	140	76	µg/kg	382.5	NA	20	153	None, absolute difference ≤ 2x Avg RL
Chrysene	340	77	390	76	µg/kg	382.5	NA	50	153	None, absolute difference ≤ 2x Avg RL
Dibenzo(a,h)anthracene	60	J	77	110	76	µg/kg	382.5	NA	50	153
Fluoranthene	320	77	400	76	µg/kg	382.5	NA	80	153	None, absolute difference ≤ 2x Avg RL
Indeno(1,2,3-cd)pyrene	100	77	130	76	µg/kg	382.5	NA	30	153	None, absolute difference ≤ 2x Avg RL
Naphthalene	170	77	130	J	76	µg/kg	382.5	NA	40	153
Phenanthrene	330	77	290	76	µg/kg	382.5	NA	40	153	None, absolute difference ≤ 2x Avg RL
Pyrene	350	77	440	76	µg/kg	382.5	NA	90	153	None, absolute difference ≤ 2x Avg RL

Note: If the analyte was not detected, then the cell was left blank.

µg/kg - micrograms per kilogram

J - Estimated value

NA - Not applicable

RL - Reporting limit

RPD - Relative percent difference

Precision is based on either the absolute difference between sample results or RPD. If the sample results are less than or equal to 5x's the RL, then precision is based on the absolute difference between duplicate results. If sample results >5x's RL, then precision is evaluated using RPD. J-Flag sample results whenever the absolute difference is greater than the RL (2x for soils) or the RPD >20% (50% for soil). Table above presents the results for detected analytes only.

ATTACHMENT C
CASE NARRATIVE

CASE NARRATIVE
Client: Oneida Total Integrated Enterprises LLC
Project: 35th Avenue Superfund Site
Report Number: 680-106200-3

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

No additional analytical or quality issues were noted, other than those described below or in the Definitions/Glossary page.

RECEIPT

The samples were received on 10/11/2014 9:33 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 0.8° C, 1.8° C, 4.8° C and 5.2° C.

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS) LOW LEVEL PAH

Samples CV0965D-CS6 (680-106200-31), CV0965D-CSD6 (680-106200-32), CV0965D-CS12 (680-106200-33), CV0965D-CS18 (680-106200-34), CV0965D-CS24 (680-106200-35), CV0739A-CS6 (680-106200-36), CV0739A-CS12 (680-106200-37), CV0739A-CS18 (680-106200-38), CV0739A-CS24 (680-106200-39), CV0509T-CS6 (680-106200-40), CV0509T-CS12 (680-106200-41), CV0509T-CS18 (680-106200-42), CV0613B-CS6 (680-106200-43), CV0509T-CS24 (680-106200-44), CV0613B-CSD6 (680-106200-45), CV0613B-CS12 (680-106200-46), CV0613B-CS18 (680-106200-47), CV0613B-CS24 (680-106200-48), CV0753A-CS (0-4") (680-106200-49) and CV0753A-CSD (0-4") (680-106200-50) were analyzed for Semivolatile Organic Compounds (GC/MS) Low level PAH in accordance with EPA SW846 Method 8270D.

Method(s) 8270D_LL_PAH: Manual integration was performed on the following sample(s): CV0965D-CS12 (680-106200-33), CV0965D-CS18 (680-106200-34), CV0965D-CS24 (680-106200-35), CV0965D-CSD6 (680-106200-32), CV0509T-CS18 (680-106200-42), CV0613B-CS12 (680-106200-46), CV0613B-CS18 (680-106200-47), CV0613B-CS24 (680-106200-48), CV0613B-CS6 (680-106200-43), CV0613B-CSD6 (680-106200-45), CV0753A-CS (0-4") (680-106200-49), CV0753A-CSD (0-4") (680-106200-50), CV0753B-CS (0-4") (680-106200-51), CV0965D-CS6 (680-106200-31), CV0509T-CS6 (680-106200-40), CV0509T-CS12 (680-106200-41), CV0739A-CS12 (680-106200-37), CV0739A-CS18 (680-106200-38), CV0739A-CS24 (680-106200-39), CV0739A-CS6 (680-106200-36).

Method(s) 8270D_LL_PAH: The following sample(s) was diluted due to the nature of the sample matrix: CV0965D-CS12 (680-106200-33), CV0965D-CSD6 (680-106200-32), CV0965D-CS24 (680-106200-35), CV0965D-CS18 (680-106200-42), CV0613B-CS12 (680-106200-46), CV0613B-CS6 (680-106200-43), CV0613B-CSD6 (680-106200-45), CV0753A-CS (0-4") (680-106200-49), CV0753A-CSD (0-4") (680-106200-50), CV0965D-CS6 (680-106200-31), CV0965D-CS6 (680-106200-31 MSD), CV0509T-CS12 (680-106200-41), CV0739A-CS12 (680-106200-37), CV0739A-CS18 (680-106200-38), CV0739A-CS6 (680-106200-36), CV0965D-CS6 (680-106200-31 MS). As such, surrogate and MS/MSD spike recoveries were diluted out and are not reported.

Method(s) 8270D_LL_PAH: The continuing calibration verification (CCV) analyzed in batch 354069 was outside the method criteria for the following analyte(s): Indeno[1,2,3-cd]pyrene and o-Terphenyl. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D_LL_PAH: The continuing calibration verification (CCV) analyzed in batch 354071 was outside the method criteria for the following analyte(s): o-Terphenyl. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Acenaphthylene and Indeno[1,2,3-cd]pyrene recovery is outside criteria low for the MS of sample CV0965D-CS6 (680-106200-31) in batch 680-354069. Refer to the QC report for details.

METALS (ICP)

Samples CV0965D-CS6 (680-106200-31), CV0965D-CSD6 (680-106200-32), CV0965D-CS12 (680-106200-33), CV0965D-CS18 (680-106200-34), CV0965D-CS24 (680-106200-35), CV0739A-CS6 (680-106200-36), CV0739A-CS12 (680-106200-37), CV0739A-CS18 (680-106200-38), CV0739A-CS24 (680-106200-39), CV0509T-CS6 (680-106200-40), CV0509T-CS12 (680-106200-41), CV0509T-CS18 (680-106200-42), CV0613B-CS6 (680-106200-43), CV0509T-CS24 (680-106200-44), CV0613B-CSD6 (680-106200-45), CV0613B-CS12 (680-106200-46), CV0613B-CS18 (680-106200-47), CV0613B-CS24 (680-106200-48), CV0753A-CS (0-4") (680-106200-49) and CV0753A-CSD (0-4") (680-106200-50) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C.

Iron was detected in method blank MB 680-353436/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Method(s) 6010C: The method blank for batch 680-353436 contained iron above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Many of the metals have recovery outside criteria low for the MS and/or MSD of sample CV0965D-CS6 (680-106200-31) in batch 680-353949. Aluminum failed the recovery criteria high. Refer to the QC report for details.

PERCENT SOLIDS/MOISTURE

Samples CV0965D-CS6 (680-106200-31), CV0965D-CSD6 (680-106200-32), CV0965D-CS12 (680-106200-33), CV0965D-CS18 (680-106200-34), CV0965D-CS24 (680-106200-35), CV0739A-CS6 (680-106200-36), CV0739A-CS12 (680-106200-37), CV0739A-CS18 (680-106200-38), CV0739A-CS24 (680-106200-39), CV0509T-CS6 (680-106200-40), CV0509T-CS12 (680-106200-41), CV0509T-CS18 (680-106200-42), CV0613B-CS6 (680-106200-43), CV0509T-CS24 (680-106200-44), CV0613B-CSD6 (680-106200-45), CV0613B-CS12 (680-106200-46), CV0613B-CS18 (680-106200-47), CV0613B-CS24 (680-106200-48), CV0753A-CS (0-4") (680-106200-49) and CV0753A-CSD (0-4") (680-106200-50) were analyzed for Percent Solids/Moisture in accordance with TestAmerica SOP.

ATTACHMENT D
QUALIFIED SAMPLE RESULTS

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0965D-CS6

Lab Sample ID: 680-106200-31

Matrix: Solid

Lab File ID: 1YJ1712.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/06/2014 15:30

Extract. Method: 3546

Date Extracted: 10/15/2014 14:21

Sample wt/vol: 30.05(g)

Date Analyzed: 10/17/2014 13:41

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 20.7

GPC Cleanup:(Y/N) N

Analysis Batch No.: 354069

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	84	U	84	42
208-96-8	Acenaphthylene	59	J	84	42
120-12-7	Anthracene	53	J	84	42
56-55-3	Benzo[a]anthracene	250		84	42
50-32-8	Benzo[a]pyrene	180		84	15
205-99-2	Benzo[b]fluoranthene	320		84	42
191-24-2	Benzo[g,h,i]perylene	140		84	42
207-08-9	Benzo[k]fluoranthene	110		84	25
218-01-9	Chrysene	330		84	42
53-70-3	Dibenz(a,h)anthracene	64	J	84	42
206-44-0	Fluoranthene	360		84	42
86-73-7	Fluorene	84	U	84	42
193-39-5	Indeno[1,2,3-cd]pyrene	87	J	84	42
90-12-0	1-Methylnaphthalene	210		84	39
91-57-6	2-Methylnaphthalene	170		84	42
91-20-3	Naphthalene	150		84	42
85-01-8	Phenanthrene	360		84	30
129-00-0	Pyrene	370		84	42

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0965D-CSD6

Lab Sample ID: 680-106200-32

Matrix: Solid

Lab File ID: 1YJ1621.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/06/2014 15:30

Extract. Method: 3546

Date Extracted: 10/15/2014 10:01

Sample wt/vol: 29.98(g)

Date Analyzed: 10/16/2014 19:13

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 9.3

GPC Cleanup:(Y/N) N

Analysis Batch No.: 353862

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	74	U	74	36
208-96-8	Acenaphthylene	56	J	74	36
120-12-7	Anthracene	60	J	74	36
56-55-3	Benzo[a]anthracene	250		74	36
50-32-8	Benzo[a]pyrene	200		74	13
205-99-2	Benzo[b]fluoranthene	370		74	36
191-24-2	Benzo[g,h,i]perylene	160		74	36
207-08-9	Benzo[k]fluoranthene	100		74	22
218-01-9	Chrysene	400		74	36
53-70-3	Dibenz(a,h)anthracene	83		74	36
206-44-0	Fluoranthene	350		74	36
86-73-7	Fluorene	74	U	74	36
193-39-5	Indeno[1,2,3-cd]pyrene	100		74	36
90-12-0	1-Methylnaphthalene	240		74	34
91-57-6	2-Methylnaphthalene	210		74	36
91-20-3	Naphthalene	180		74	36
85-01-8	Phenanthrene	420		74	26
129-00-0	Pyrene	400		74	36

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0965D-CS12

Lab Sample ID: 680-106200-33

Matrix: Solid

Lab File ID: 1YJ1622.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/06/2014 15:40

Extract. Method: 3546

Date Extracted: 10/15/2014 10:01

Sample wt/vol: 30.01(g)

Date Analyzed: 10/16/2014 19:35

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 5.4

GPC Cleanup: (Y/N) N

Analysis Batch No.: 353862

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	71	U	71	35
208-96-8	Acenaphthylene	71	U	71	35
120-12-7	Anthracene	46	J	71	35
56-55-3	Benzo[a]anthracene	190		71	35
50-32-8	Benzo[a]pyrene	200		71	13
205-99-2	Benzo[b]fluoranthene	300		71	35
191-24-2	Benzo[g,h,i]perylene	150		71	35
207-08-9	Benzo[k]fluoranthene	120		71	21
218-01-9	Chrysene	220		71	35
53-70-3	Dibenz(a,h)anthracene	57	J	71	35
206-44-0	Fluoranthene	240		71	35
86-73-7	Fluorene	71	U	71	35
193-39-5	Indeno[1,2,3-cd]pyrene	120		71	35
90-12-0	1-Methylnaphthalene	54	J	71	33
91-57-6	2-Methylnaphthalene	52	J	71	35
91-20-3	Naphthalene	60	J	71	35
85-01-8	Phenanthrene	210		71	25
129-00-0	Pyrene	260		71	35

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0965D-CS18

Lab Sample ID: 680-106200-34

Matrix: Solid

Lab File ID: 1YJ1623.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/06/2014 15:55

Extract. Method: 3546

Date Extracted: 10/15/2014 10:01

Sample wt/vol: 30.05(g)

Date Analyzed: 10/16/2014 19:57

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 8.7

GPC Cleanup: (Y/N) N

Analysis Batch No.: 353862

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.3	U	7.3	3.6
208-96-8	Acenaphthylene	7.3	U	7.3	3.6
120-12-7	Anthracene	5.2	J	7.3	3.6
56-55-3	Benzo[a]anthracene	18		7.3	3.6
50-32-8	Benzo[a]pyrene	19		7.3	1.3
205-99-2	Benzo[b]fluoranthene	29		7.3	3.6
191-24-2	Benzo[g,h,i]perylene	17		7.3	3.6
207-08-9	Benzo[k]fluoranthene	12		7.3	2.2
218-01-9	Chrysene	24		7.3	3.6
53-70-3	Dibenz(a,h)anthracene	5.1	J	7.3	3.6
206-44-0	Fluoranthene	30		7.3	3.6
86-73-7	Fluorene	7.3	U	7.3	3.6
193-39-5	Indeno[1,2,3-cd]pyrene	12		7.3	3.6
90-12-0	1-Methylnaphthalene	5.9	J	7.3	3.4
91-57-6	2-Methylnaphthalene	5.9	J	7.3	3.6
91-20-3	Naphthalene	4.3	J	7.3	3.6
85-01-8	Phenanthrene	26		7.3	2.6
129-00-0	Pyrene	31		7.3	3.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	111		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah	Job No.: 680-106200-3
SDG No.: 680-106200-03	
Client Sample ID: CV0965D-CS24	Lab Sample ID: 680-106200-35
Matrix: Solid	Lab File ID: 1YJ1624.D
Analysis Method: 8270D_LL_PAH	Date Collected: 10/06/2014 16:00
Extract. Method: 3546	Date Extracted: 10/15/2014 10:01
Sample wt/vol: 30.01(g)	Date Analyzed: 10/16/2014 20:19
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 2(uL)	Level: (low/med) Low
% Moisture: 10.5	GPC Cleanup:(Y/N) N
Analysis Batch No.: 353862	Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.5	U	7.5	3.7
208-96-8	Acenaphthylene	7.5	U	7.5	3.7
120-12-7	Anthracene	7.5	U	7.5	3.7
56-55-3	Benzo[a]anthracene	7.8		7.5	3.7
50-32-8	Benzo[a]pyrene	8.0		7.5	1.3
205-99-2	Benzo[b]fluoranthene	12		7.5	3.7
191-24-2	Benzo[g,h,i]perylene	7.5		7.5	3.7
207-08-9	Benzo[k]fluoranthene	4.8	J	7.5	2.2
218-01-9	Chrysene	11		7.5	3.7
53-70-3	Dibenz(a,h)anthracene	7.5	U	7.5	3.7
206-44-0	Fluoranthene	12		7.5	3.7
86-73-7	Fluorene	7.5	U	7.5	3.7
193-39-5	Indeno[1,2,3-cd]pyrene	4.8	J	7.5	3.7
90-12-0	1-Methylnaphthalene	4.1	J	7.5	3.5
91-57-6	2-Methylnaphthalene	7.5	U	7.5	3.7
91-20-3	Naphthalene	7.5	U	7.5	3.7
85-01-8	Phenanthrene	9.8		7.5	2.7
129-00-0	Pyrene	14		7.5	3.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	106		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0739A-CS6

Lab Sample ID: 680-106200-36

Matrix: Solid

Lab File ID: 1KJ1711.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/06/2014 13:50

Extract. Method: 3546

Date Extracted: 10/15/2014 10:01

Sample wt/vol: 30.04(g)

Date Analyzed: 10/17/2014 14:31

Con. Extract Vol.: 1(mL)

Dilution Factor: 20

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 8.5

GPC Cleanup:(Y/N) N

Analysis Batch No.: 354071

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	530		150	72
208-96-8	Acenaphthylene	130	J	150	72
120-12-7	Anthracene	1200		150	72
56-55-3	Benzo[a]anthracene	4700		150	72
50-32-8	Benzo[a]pyrene	3900		150	26
205-99-2	Benzo[b]fluoranthene	5700		150	72
191-24-2	Benzo[g,h,i]perylene	1300		150	72
207-08-9	Benzo[k]fluoranthene	2900		150	44
218-01-9	Chrysene	5000		150	72
53-70-3	Dibenz(a,h)anthracene	510		150	72
206-44-0	Fluoranthene	9900		150	72
86-73-7	Fluorene	460		150	72
193-39-5	Indeno[1,2,3-cd]pyrene	1300		150	72
90-12-0	1-Methylnaphthalene	230		150	68
91-57-6	2-Methylnaphthalene	290		150	72
91-20-3	Naphthalene	410		150	72
85-01-8	Phenanthrene	5700		150	52
129-00-0	Pyrene	8200		150	72

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0739A-CS12

Lab Sample ID: 680-106200-37

Matrix: Solid

Lab File ID: 1KJ1715.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/06/2014 14:00

Extract. Method: 3546

Date Extracted: 10/15/2014 10:01

Sample wt/vol: 29.99(g)

Date Analyzed: 10/17/2014 16:03

Con. Extract Vol.: 1(mL)

Dilution Factor: 50

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 6.7

GPC Cleanup:(Y/N) N

Analysis Batch No.: 354071

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	230	J	360	180
208-96-8	Acenaphthylene	2400		360	180
120-12-7	Anthracene	3000		360	180
56-55-3	Benzo[a]anthracene	6600		360	180
50-32-8	Benzo[a]pyrene	3600		360	64
205-99-2	Benzo[b]fluoranthene	6800		360	180
191-24-2	Benzo[g,h,i]perylene	970		360	180
207-08-9	Benzo[k]fluoranthene	2600		360	110
218-01-9	Chrysene	6800		360	180
53-70-3	Dibenz(a,h)anthracene	480		360	180
206-44-0	Fluoranthene	16000		360	180
86-73-7	Fluorene	1900		360	180
193-39-5	Indeno[1,2,3-cd]pyrene	970		360	180
90-12-0	1-Methylnaphthalene	780		360	170
91-57-6	2-Methylnaphthalene	1200		360	180
91-20-3	Naphthalene	3300		360	180
85-01-8	Phenanthrene	12000		360	130
129-00-0	Pyrene	10000		360	180

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0739A-CS18

Lab Sample ID: 680-106200-38

Matrix: Solid

Lab File ID: 1KJ1713.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/06/2014 14:10

Extract. Method: 3546

Date Extracted: 10/15/2014 10:01

Sample wt/vol: 29.99(g)

Date Analyzed: 10/17/2014 15:17

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 13.1

GPC Cleanup:(Y/N) N

Analysis Batch No.: 354071

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	97		77	38
208-96-8	Acenaphthylene	500		77	38
120-12-7	Anthracene	980		77	38
56-55-3	Benzo[a]anthracene	920		77	38
50-32-8	Benzo[a]pyrene	320		77	14
205-99-2	Benzo[b]fluoranthene	690		77	38
191-24-2	Benzo[g,h,i]perylene	71	J	77	38
207-08-9	Benzo[k]fluoranthene	250		77	23
218-01-9	Chrysene	950		77	38
53-70-3	Dibenz(a,h)anthracene	53	J	77	38
206-44-0	Fluoranthene	2800		77	38
86-73-7	Fluorene	1400		77	38
193-39-5	Indeno[1,2,3-cd]pyrene	73	J	77	38
90-12-0	1-Methylnaphthalene	450		77	36
91-57-6	2-Methylnaphthalene	890		77	38
91-20-3	Naphthalene	2000		77	38
85-01-8	Phenanthrene	4200		77	28
129-00-0	Pyrene	1600		77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0739A-CS24

Lab Sample ID: 680-106200-39

Matrix: Solid

Lab File ID: 1KJ1708.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/06/2014 14:20

Extract. Method: 3546

Date Extracted: 10/15/2014 10:01

Sample wt/vol: 30.01(g)

Date Analyzed: 10/17/2014 12:13

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 17.3

GPC Cleanup:(Y/N) N

Analysis Batch No.: 354071

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	10		8.1	4.0
208-96-8	Acenaphthylene	37		8.1	4.0
120-12-7	Anthracene	16		8.1	4.0
56-55-3	Benzo[a]anthracene	71		8.1	4.0
50-32-8	Benzo[a]pyrene	38		8.1	1.5
205-99-2	Benzo[b]fluoranthene	110		8.1	4.0
191-24-2	Benzo[g,h,i]perylene	12		8.1	4.0
207-08-9	Benzo[k]fluoranthene	32		8.1	2.4
218-01-9	Chrysene	120		8.1	4.0
53-70-3	Dibenz(a,h)anthracene	6.8	J	8.1	4.0
206-44-0	Fluoranthene	140		8.1	4.0
86-73-7	Fluorene	15		8.1	4.0
193-39-5	Indeno[1,2,3-cd]pyrene	7.8	J	8.1	4.0
90-12-0	1-Methylnaphthalene	69		8.1	3.7
91-57-6	2-Methylnaphthalene	88		8.1	4.0
91-20-3	Naphthalene	150		8.1	4.0
85-01-8	Phenanthrene	130		8.1	2.9
129-00-0	Pyrene	110		8.1	4.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	59		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0509T-CS6

Lab Sample ID: 680-106200-40

Matrix: Solid

Lab File ID: 1KJ1709.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/07/2014 09:20

Extract. Method: 3546

Date Extracted: 10/15/2014 10:01

Sample wt/vol: 30.05(g)

Date Analyzed: 10/17/2014 12:36

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 10.0

GPC Cleanup:(Y/N) N

Analysis Batch No.: 354071

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	62	J	74	37
208-96-8	Acenaphthylene	74	U	74	37
120-12-7	Anthracene	140		74	37
56-55-3	Benzo[a]anthracene	910		74	37
50-32-8	Benzo[a]pyrene	810		74	13
205-99-2	Benzo[b]fluoranthene	1300		74	37
191-24-2	Benzo[g,h,i]perylene	330		74	37
207-08-9	Benzo[k]fluoranthene	430		74	22
218-01-9	Chrysene	890		74	37
53-70-3	Dibenz(a,h)anthracene	100		74	37
206-44-0	Fluoranthene	1600		74	37
86-73-7	Fluorene	56	J	74	37
193-39-5	Indeno[1,2,3-cd]pyrene	300		74	37
90-12-0	1-Methylnaphthalene	42	J	74	34
91-57-6	2-Methylnaphthalene	58	J	74	37
91-20-3	Naphthalene	45	J	74	37
85-01-8	Phenanthrene	590		74	27
129-00-0	Pyrene	1200		74	37

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0509T-CS12

Lab Sample ID: 680-106200-41

Matrix: Solid

Lab File ID: 1KJ1714.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/07/2014 09:30

Extract. Method: 3546

Date Extracted: 10/15/2014 10:01

Sample wt/vol: 29.99(g)

Date Analyzed: 10/17/2014 15:40

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 1(uL)

Level: (low/med) Low

% Moisture: 9.5

GPC Cleanup:(Y/N) N

Analysis Batch No.: 354071

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	74	U	74	36
208-96-8	Acenaphthylene	74	U	74	36
120-12-7	Anthracene	74	U	74	36
56-55-3	Benzo[a]anthracene	110		74	36
50-32-8	Benzo[a]pyrene	110		74	13
205-99-2	Benzo[b]fluoranthene	170		74	36
191-24-2	Benzo[g,h,i]perylene	59	J	74	36
207-08-9	Benzo[k]fluoranthene	76		74	22
218-01-9	Chrysene	130		74	36
53-70-3	Dibenz(a,h)anthracene	74	U	74	36
206-44-0	Fluoranthene	210		74	36
86-73-7	Fluorene	74	U	74	36
193-39-5	Indeno[1,2,3-cd]pyrene	42	J	74	36
90-12-0	1-Methylnaphthalene	74	U	74	34
91-57-6	2-Methylnaphthalene	74	U	74	36
91-20-3	Naphthalene	74	U	74	36
85-01-8	Phenanthrene	91		74	27
129-00-0	Pyrene	170		74	36

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0509T-CS18

Lab Sample ID: 680-106200-42

Matrix: Solid

Lab File ID: 1YJ1714.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/07/2014 09:40

Extract. Method: 3546

Date Extracted: 10/15/2014 14:21

Sample wt/vol: 30.01(g)

Date Analyzed: 10/17/2014 14:25

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 10.2

GPC Cleanup:(Y/N) N

Analysis Batch No.: 354069

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	75	U	75	37
208-96-8	Acenaphthylene	75	U	75	37
120-12-7	Anthracene	75	U	75	37
56-55-3	Benzo[a]anthracene	79		75	37
50-32-8	Benzo[a]pyrene	78		75	13
205-99-2	Benzo[b]fluoranthene	140		75	37
191-24-2	Benzo[g,h,i]perylene	63	J	75	37
207-08-9	Benzo[k]fluoranthene	49	J	75	22
218-01-9	Chrysene	100		75	37
53-70-3	Dibenz(a,h)anthracene	75	U	75	37
206-44-0	Fluoranthene	120		75	37
86-73-7	Fluorene	75	U	75	37
193-39-5	Indeno[1,2,3-cd]pyrene	52	J	75	37
90-12-0	1-Methylnaphthalene	75	U	75	35
91-57-6	2-Methylnaphthalene	75	U	75	37
91-20-3	Naphthalene	75	U	75	37
85-01-8	Phenanthrene	62	J	75	27
129-00-0	Pyrene	110		75	37

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0613B-CS6

Lab Sample ID: 680-106200-43

Matrix: Solid

Lab File ID: 1YJ1715.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/07/2014 14:50

Extract. Method: 3546

Date Extracted: 10/15/2014 14:21

Sample wt/vol: 30.04(g)

Date Analyzed: 10/17/2014 14:48

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 8.3

GPC Cleanup:(Y/N) N

Analysis Batch No.: 354069

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	72	J	73	36
208-96-8	Acenaphthylene	73	U	73	36
120-12-7	Anthracene	210		73	36
56-55-3	Benzo[a]anthracene	900		73	36
50-32-8	Benzo[a]pyrene	920		73	13
205-99-2	Benzo[b]fluoranthene	1500		73	36
191-24-2	Benzo[g,h,i]perylene	600		73	36
207-08-9	Benzo[k]fluoranthene	530		73	22
218-01-9	Chrysene	1100		73	36
53-70-3	Dibenz(a,h)anthracene	270		73	36
206-44-0	Fluoranthene	1700		73	36
86-73-7	Fluorene	64	J	73	36
193-39-5	Indeno[1,2,3-cd]pyrene	470	J	73	36
90-12-0	1-Methylnaphthalene	76		73	34
91-57-6	2-Methylnaphthalene	91		73	36
91-20-3	Naphthalene	81		73	36
85-01-8	Phenanthrene	850		73	26
129-00-0	Pyrene	1600		73	36

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0509T-CS24

Lab Sample ID: 680-106200-44

Matrix: Solid

Lab File ID: 1YJ1716.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/07/2014 09:50

Extract. Method: 3546

Date Extracted: 10/15/2014 14:21

Sample wt/vol: 30.05(g)

Date Analyzed: 10/17/2014 15:10

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 14.7

GPC Cleanup: (Y/N) N

Analysis Batch No.: 354069

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.8	U	7.8	3.9
208-96-8	Acenaphthylene	7.8	U	7.8	3.9
120-12-7	Anthracene	7.8	U	7.8	3.9
56-55-3	Benzo[a]anthracene	7.8	U	7.8	3.9
50-32-8	Benzo[a]pyrene	7.8	U	7.8	1.4
205-99-2	Benzo[b]fluoranthene	7.8	U	7.8	3.9
191-24-2	Benzo[g,h,i]perylene	7.8	U	7.8	3.9
207-08-9	Benzo[k]fluoranthene	7.8	U	7.8	2.3
218-01-9	Chrysene	7.8	U	7.8	3.9
53-70-3	Dibenz(a,h)anthracene	7.8	U	7.8	3.9
206-44-0	Fluoranthene	7.8	U	7.8	3.9
86-73-7	Fluorene	7.8	U	7.8	3.9
193-39-5	Indeno[1,2,3-cd]pyrene	7.8	U J	7.8	3.9
90-12-0	1-Methylnaphthalene	7.8	U	7.8	3.6
91-57-6	2-Methylnaphthalene	7.8	U	7.8	3.9
91-20-3	Naphthalene	7.8	U	7.8	3.9
85-01-8	Phenanthrene	7.8	U	7.8	2.8
129-00-0	Pyrene	7.8	U	7.8	3.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	101		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0613B-CSD6

Lab Sample ID: 680-106200-45

Matrix: Solid

Lab File ID: 1YJ1717.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/07/2014 14:50

Extract. Method: 3546

Date Extracted: 10/15/2014 14:21

Sample wt/vol: 30.01(g)

Date Analyzed: 10/17/2014 15:32

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 8.8

GPC Cleanup: (Y/N) N

Analysis Batch No.: 354069

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	65	J	73	36
208-96-8	Acenaphthylene	73	U	73	36
120-12-7	Anthracene	180		73	36
56-55-3	Benzo[a]anthracene	740		73	36
50-32-8	Benzo[a]pyrene	780		73	13
205-99-2	Benzo[b]fluoranthene	1300		73	36
191-24-2	Benzo[g,h,i]perylene	560		73	36
207-08-9	Benzo[k]fluoranthene	450		73	22
218-01-9	Chrysene	870		73	36
53-70-3	Dibenz(a,h)anthracene	240		73	36
206-44-0	Fluoranthene	1400		73	36
86-73-7	Fluorene	53	J	73	36
193-39-5	Indeno[1,2,3-cd]pyrene	400	J	73	36
90-12-0	1-Methylnaphthalene	53	J	73	34
91-57-6	2-Methylnaphthalene	66	J	73	36
91-20-3	Naphthalene	59	J	73	36
85-01-8	Phenanthrene	720		73	26
129-00-0	Pyrene	1200		73	36

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0613B-CS12

Lab Sample ID: 680-106200-46

Matrix: Solid

Lab File ID: 1YJ1718.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/07/2014 15:00

Extract. Method: 3546

Date Extracted: 10/15/2014 14:21

Sample wt/vol: 30.01(g)

Date Analyzed: 10/17/2014 15:54

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 7.3

GPC Cleanup: (Y/N) N

Analysis Batch No.: 354069

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	72	U	72	36
208-96-8	Acenaphthylene	72	U	72	36
120-12-7	Anthracene	72	U	72	36
56-55-3	Benzo[a]anthracene	250		72	36
50-32-8	Benzo[a]pyrene	200		72	13
205-99-2	Benzo[b]fluoranthene	290		72	36
191-24-2	Benzo[g,h,i]perylene	130		72	36
207-08-9	Benzo[k]fluoranthene	130		72	22
218-01-9	Chrysene	290		72	36
53-70-3	Dibenz(a,h)anthracene	53	J	72	36
206-44-0	Fluoranthene	400		72	36
86-73-7	Fluorene	72	U	72	36
193-39-5	Indeno[1,2,3-cd]pyrene	90	J	72	36
90-12-0	1-Methylnaphthalene	120		72	33
91-57-6	2-Methylnaphthalene	110		72	36
91-20-3	Naphthalene	65	J	72	36
85-01-8	Phenanthrene	230		72	26
129-00-0	Pyrene	430		72	36

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0613B-CS18

Lab Sample ID: 680-106200-47

Matrix: Solid

Lab File ID: 1YJ1719.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/07/2014 15:10

Extract. Method: 3546

Date Extracted: 10/15/2014 14:21

Sample wt/vol: 30.02(g)

Date Analyzed: 10/17/2014 16:16

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 21.3

GPC Cleanup:(Y/N) N

Analysis Batch No.: 354069

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	8.5	U	8.5	4.2
208-96-8	Acenaphthylene	7.2	J	8.5	4.2
120-12-7	Anthracene	11		8.5	4.2
56-55-3	Benzo[a]anthracene	73		8.5	4.2
50-32-8	Benzo[a]pyrene	63		8.5	1.5
205-99-2	Benzo[b]fluoranthene	95		8.5	4.2
191-24-2	Benzo[g,h,i]perylene	50		8.5	4.2
207-08-9	Benzo[k]fluoranthene	42		8.5	2.5
218-01-9	Chrysene	85		8.5	4.2
53-70-3	Dibenz(a,h)anthracene	19		8.5	4.2
206-44-0	Fluoranthene	110		8.5	4.2
86-73-7	Fluorene	8.5	UJ	8.5	4.2
193-39-5	Indeno[1,2,3-cd]pyrene	32		8.5	4.2
90-12-0	1-Methylnaphthalene	46		8.5	3.9
91-57-6	2-Methylnaphthalene	45		8.5	4.2
91-20-3	Naphthalene	24		8.5	4.2
85-01-8	Phenanthrene	74		8.5	3.0
129-00-0	Pyrene	120		8.5	4.2

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	93		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0613B-CS24

Lab Sample ID: 680-106200-48

Matrix: Solid

Lab File ID: 1YJ1720.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/07/2014 15:20

Extract. Method: 3546

Date Extracted: 10/15/2014 14:21

Sample wt/vol: 30.02(g)

Date Analyzed: 10/17/2014 16:39

Con. Extract Vol.: 1(mL)

Dilution Factor: 1

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 10.4

GPC Cleanup: (Y/N) N

Analysis Batch No.: 354069

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	7.5	U	7.5	3.7
208-96-8	Acenaphthylene	7.5	U	7.5	3.7
120-12-7	Anthracene	7.5	U	7.5	3.7
56-55-3	Benzo[a]anthracene	8.5		7.5	3.7
50-32-8	Benzo[a]pyrene	8.0		7.5	1.3
205-99-2	Benzo[b]fluoranthene	12		7.5	3.7
191-24-2	Benzo[g,h,i]perylene	7.4	J	7.5	3.7
207-08-9	Benzo[k]fluoranthene	4.9	J	7.5	2.2
218-01-9	Chrysene	9.8		7.5	3.7
53-70-3	Dibenz(a,h)anthracene	7.5	U	7.5	3.7
206-44-0	Fluoranthene	9.8		7.5	3.7
86-73-7	Fluorene	7.5	U	7.5	3.7
193-39-5	Indeno[1,2,3-cd]pyrene	5.2	XJ	7.5	3.7
90-12-0	1-Methylnaphthalene	4.1	J	7.5	3.5
91-57-6	2-Methylnaphthalene	3.9	J	7.5	3.7
91-20-3	Naphthalene	7.5	U	7.5	3.7
85-01-8	Phenanthrene	6.7	J	7.5	2.7
129-00-0	Pyrene	11		7.5	3.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	104		36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0753A-CS (0-4")

Lab Sample ID: 680-106200-49

Matrix: Solid

Lab File ID: 1YJ1721.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/07/2014 16:10

Extract. Method: 3546

Date Extracted: 10/15/2014 14:21

Sample wt/vol: 30.01(g)

Date Analyzed: 10/17/2014 17:01

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 12.7

GPC Cleanup:(Y/N) N

Analysis Batch No.: 354069

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	77	U	77	38
208-96-8	Acenaphthylene	77	U	77	38
120-12-7	Anthracene	45	J	77	38
56-55-3	Benzo[a]anthracene	250		77	38
50-32-8	Benzo[a]pyrene	210		77	14
205-99-2	Benzo[b]fluoranthene	390		77	38
191-24-2	Benzo[g,h,i]perylene	180		77	38
207-08-9	Benzo[k]fluoranthene	120		77	23
218-01-9	Chrysene	340		77	38
53-70-3	Dibenz(a,h)anthracene	60	J	77	38
206-44-0	Fluoranthene	320		77	38
86-73-7	Fluorene	77	U	77	38
193-39-5	Indeno[1,2,3-cd]pyrene	100	J	77	38
90-12-0	1-Methylnaphthalene	210		77	36
91-57-6	2-Methylnaphthalene	240		77	38
91-20-3	Naphthalene	170		77	38
85-01-8	Phenanthrene	330		77	27
129-00-0	Pyrene	350		77	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah

Job No.: 680-106200-3

SDG No.: 680-106200-03

Client Sample ID: CV0753A-CSD (0-4")

Lab Sample ID: 680-106200-50

Matrix: Solid

Lab File ID: 1YJ1722.D

Analysis Method: 8270D_LL_PAH

Date Collected: 10/07/2014 16:10

Extract. Method: 3546

Date Extracted: 10/15/2014 14:21

Sample wt/vol: 30.03(g)

Date Analyzed: 10/17/2014 17:23

Con. Extract Vol.: 1(mL)

Dilution Factor: 10

Injection Volume: 2(uL)

Level: (low/med) Low

% Moisture: 12.4

GPC Cleanup:(Y/N) N

Analysis Batch No.: 354069

Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
83-32-9	Acenaphthene	76	U	76	38
208-96-8	Acenaphthylene	76	U	76	38
120-12-7	Anthracene	43	J	76	38
56-55-3	Benzo[a]anthracene	280		76	38
50-32-8	Benzo[a]pyrene	260		76	14
205-99-2	Benzo[b]fluoranthene	440		76	38
191-24-2	Benzo[g,h,i]perylene	180		76	38
207-08-9	Benzo[k]fluoranthene	140		76	23
218-01-9	Chrysene	390		76	38
53-70-3	Dibenz(a,h)anthracene	110		76	38
206-44-0	Fluoranthene	400		76	38
86-73-7	Fluorene	76	U	76	38
193-39-5	Indeno[1,2,3-cd]pyrene	130	J	76	38
90-12-0	1-Methylnaphthalene	140		76	35
91-57-6	2-Methylnaphthalene	160		76	38
91-20-3	Naphthalene	130		76	38
85-01-8	Phenanthrene	290		76	27
129-00-0	Pyrene	440		76	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
84-15-1	o-Terphenyl	0	D	36-131